IN THE SPECIFICATION:

Please replace paragraph 3 at page 3, lines 5-10 as follows:

- Stability, in that some models excel when certain kinds of artifacts are encountered (e.g. blocking, corner artifacts in MPEG decoding), but they degrade significantly when applied to other kinds of artifacts; and

- Complexity, wherein a number of models rely on complicated human vision system (HVS) simulation–, which required a lot of computation power, whereas other models rely on very simple calculations (e.g. signal to noise ratio).

Please replace paragraph 1 at page 11, lines 1-6 as follows:

In order for an objective system to provide a quality evaluation that is practical, a correlation with subjective evaluation is necessary, as the potential end users and purchasers of the products will use subject evaluation of the image quality as a basis to make a purchase, or additional purchases, or compare with other products. Of course, subjective evaluation has known inconsistency problems, such as whether the viewer is a lay person or an expert, and both groups sometimes rate the same sequence differently.

<u>Please replace paragraph 2 at page 16, lines 12-22 as follows:</u>

The search process continues by altering the bit pattern of the chromosome by mutation and crossover while minimizing the deviation in the correlation factor R. The best solution would be the one giving a deviation of zero, where Deviation =1-R, and (R would be equal to 1). However, for practical reasons, the search problem could be terminated when the Deviation reaches a certain accepted value (e.g. 10%) or when the deviation cannot be decreased anymore. Fig. 3 is an overview of a system comprising an objective metric image quality controller according to the present invention. It is understood by persons of ordinary skill in the art that while the system illustrated in Fig. 3 is for explanatory purposes only, and the number of metrics, the type of model (e.g. quadratic, polynomial degree for non-linear combination to an Lth order)-, the type of ranking and genetic algorithms are not limited to the illustration.
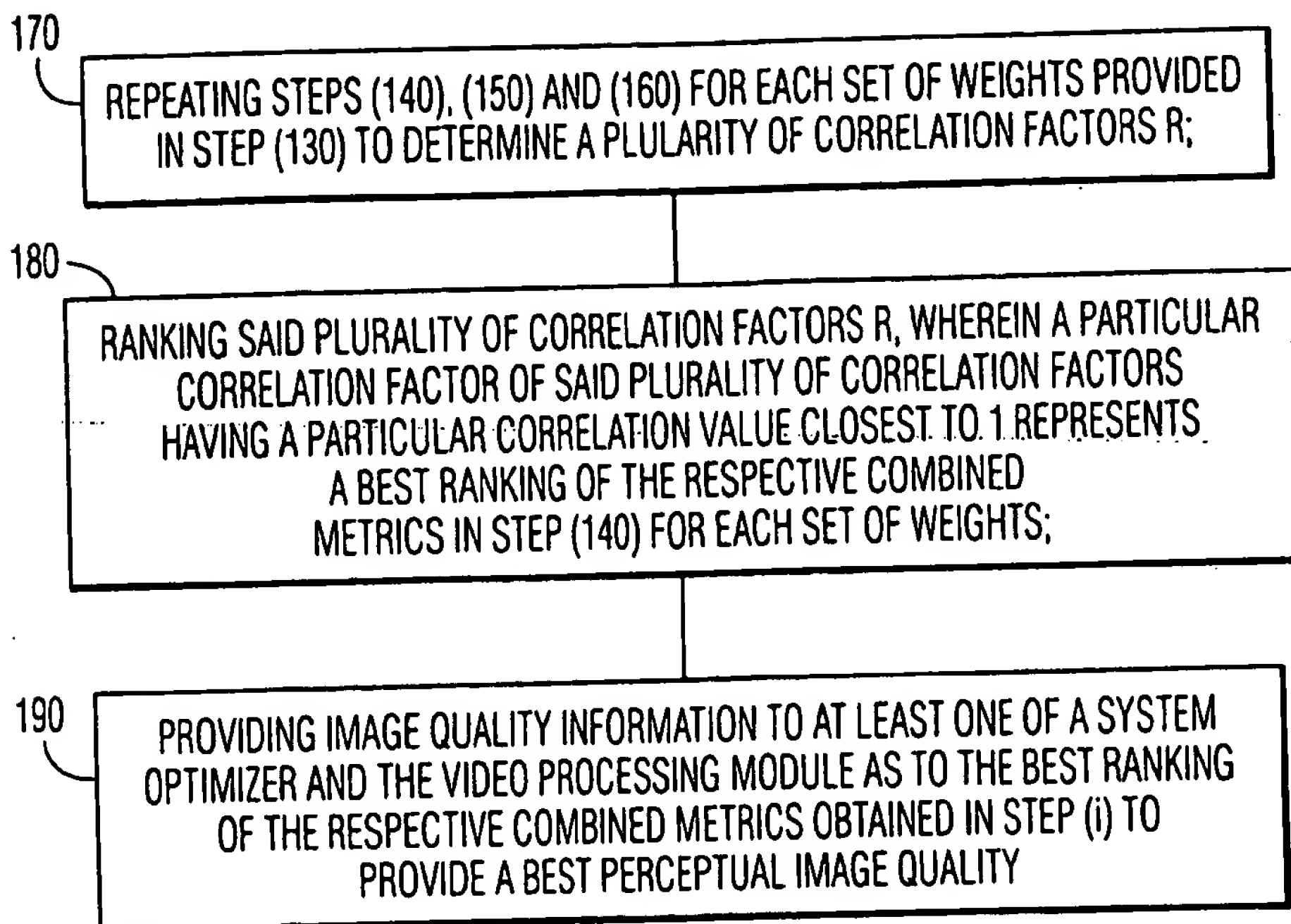
"Replacement Sheet"

Approved
SA
9/22/05

170 REPEATING STEPS (140), (150) AND (160) FOR EACH SET OF WEIGHTS PROVIDED IN STEP (130) TO DETERMINE A PLURALITY OF CORRELATION FACTORS R;

180 RANKING SAID PLURALITY OF CORRELATION FACTORS R, WHEREIN A PARTICULAR CORRELATION FACTOR OF SAID PLURALITY OF CORRELATION FACTORS HAVING A PARTICULAR CORRELATION VALUE CLOSEST TO 1 REPRESENTS A BEST RANKING OF THE RESPECTIVE COMBINED METRICS IN STEP (140) FOR EACH SET OF WEIGHTS;

190 PROVIDING IMAGE QUALITY INFORMATION TO AT LEAST ONE OF A SYSTEM OPTIMIZER AND THE VIDEO PROCESSING MODULE AS TO THE BEST RANKING OF THE RESPECTIVE COMBINED METRICS OBTAINED IN STEP (i) TO PROVIDE A BEST PERCEPTUAL IMAGE QUALITY

FIG. 1B

WHEN A PREDETERMINED NUMBER OF SETS OF METRICS = n, THE QUADRATIC MODEL TO OBTAIN THE OBJECTIVE EVALUATION F IS:

$$F = (\sum_{i=1}^{n} w_i x_i)^2, \text{ WHEREIN "n" IS A NON-ZERO VALUE.}$$

FIG. 1C

WHEN A NUMBER OF THE SET OF METRICS = 4, THEN THE QUADRATIC MODEL TO OBTAIN THE OBJECTIVE EVALUATION F IS:

$$F = w^1 x_1^2 + w^2 x_2^2 + w^3 x_3^2 + w^4 x_4^2 + w^5 x_1 x_2 + w^6 x_1 x_3 + w^7 x_1 x_4 + w^8 x_2 x_3 + w^9 x_2 x_4 + w^{10} x_3 x_4$$

FIG. 1D

$$F = W1X1^2 + W2X2^2 + W3X3^2 + W4X4^2 + W5X1X2 + W6X1X3 + W7X1X4 + W8X2X3 + W9X2X4 + W10X3W4$$